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21. The method of Claim 20 wherein the double-stranded reporter moiety is produced upon hybridization of the reporter moiety to the complement of the adapter sequence.
22. The method of Claim 21 wherein the reporter is a molecular beacon.
23. The method of Claim 20 wherein the double-stranded reporter moiety is produced upon synthesis of a complement of the reporter moiety.
24. The method of Claim 20 wherein the target sequence is amplified by SDA, PCR, 3SR, TMA or NASBA.
25. The method of Claim 20 wherein a change in fluorescence is detected.
26. The method of Claim 25 wherein the change in fluorescence is detected in real-time.
27. The method of Claim 25 wherein the change in fluorescence is detected at a selected end-point in the amplification reaction.
28. The method of Claim 20 wherein the reporter moiety is labeled with a fluorescent donor/quencher dye pair.
29. The method of Claim 20 wherein the reporter moiety is selected from the group consisting of secondary structures and specialized sequences.
30. The method of Claim 29 wherein the double-stranded reporter moiety is detected by unfolding of a hairpin structure, unfolding of a G-quartet or by nicking or cleavage of a restriction endonuclease recognition site.
31. The method of Claim 29 wherein a change in the fluorescence results directly from unfolding of a secondary structure.
32. The method of Claim 29 wherein a change in fluorescence results from cleavage or nicking of a restriction endonuclease recognition site in the double-stranded reporter moiety.
33. The method of Claim 20 wherein the reporter probe is non-extendible.

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34. The method of Claim 20 which comprises multiple signal primers, each signal primer having a separately detectable adapter sequence.

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35. The method of Claim 34 wherein each signal primer hybridizes to a different sequence variant of the target sequence.

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- a) hybridizing a signal primer comprising an adapter sequence to the target sequence such that the adapter sequence produces a 5' overhang;
- b) synthesizing a complement of the adapter sequence by extension of the hybridized target sequence;
- c) hybridizing a reporter probe comprising a reporter moiety to the complement of the adapter sequence, whereby a double-stranded reporter moiety is produced, and;
- d) detecting the double-stranded reporter moiety as an indication of the presence of the target sequence.

37. The method of Claim 36 wherein the double-stranded reporter moiety is produced upon hybridization of the reporter moiety to the complement of the adapter sequence.

20 38. The method of Claim 37 wherein the reporter is a molecular beacon.

39. The method of Claim 36 wherein the double-stranded reporter moiety is produced upon synthesis of a complement of the reporter moiety

25 40. The method of Claim 36 wherein the double-stranded reporter moiety is detected by unfolding of a secondary structure or by means of a specialized sequence.

41. The method of Claim 40 wherein unfolding of a hairpin structure or a G-quarter structure is detected.

30 42. The method of Claim 40 wherein cleavage or nicking of a restriction endonuclease recognition site is detected.

35 43. The method of Claim 36 wherein a change in fluorescence is detected.